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MANAGEMENT CONCEPT OF HIGHER EDUCATION ESTABLISHMENTS INVESTMENT POTENTIAL

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КОНЦЕПЦІЯ УПРАВЛІННЯ ІНВЕСТИЦІЙНИМ ПОТЕНЦІАЛОМ ВНЗ

The paper dwells on the issues of the investment potential structure of higher education establishments determining and analyzing in terms of modern social and economic situation in Ukraine. The management concept of higher education establishments investment potential has been offered.

В статті розглянуті питання визначення та дослідження структури інвестиційного потенціалу ВНЗ з врахуванням особливостей сучасної соціально-економічної ситуації в Україні та запропонована концепція управління ним.

Key words: *higher education establishments, social-economic conditions, market economy, investment potential, factors of development, investment potential level increase, evaluation, optimization.*

Ключові слова: *вищий навчальний заклад, соціально-економічні умови, ринкова економіка, інвестиційний потенціал, фактори розвитку, підвищення рівня інвестиційного потенціалу, оцінка, оптимізація.*

Problem definition and its relationship with important scientific and practical tasks. The modernization of higher education system in Ukraine aiming at adoption of European standards and integration in accordance with the Bologna process requires appropriate investment security. Education plays and will continue to play a crucial role in the process of the economy modernization and comprehensive development of the state because only the countries with a powerful educational potential ensure the mankind's progress. Therefore, the education sector should be considered as the starting point of the progress in Ukraine. The development of science and education as well as the investment in human capital are the key conditions for the progress of all the sectors of the economy. The decisive role in this process belongs to the state. The key to sustainable economic development of Ukraine is investments in education, science, health, mobility, motivation, i.e. in those priority spheres of society where human capital is formed [1, 9].

However, the analysis of annual foreign investment dynamics in the Ukrainian education sector over the past 4 years has shown almost a fourfold decrease, from 41 mln USD in 2010 to 14.4 mln USD in 2013. The share of investment in education and science in 2013 was 0.4% of the total and this trend has no positive improvement forecast [2, 3].

Statistics of total government investments in education in Ukraine has a negative trend. In 2007 the figure was 53.47 billion UAH, in 2008 - 70.39 billion UAH, in 2009 - 77.41 billion UAH, in 2010 - 91.07 billion UAH, in 2011 - 97.60 billion UAH, in 2012 - 111.18 billion UAH. However, comparing these indicators with the performance of the national economy in 2007 and 2008, we can conclude that Ukraine has spent 7.4% of gross domestic product (GDP) on education, in 2009 - 8.5% in 2010 - 8.4% in 2011 - 7.5% and in 2012 the figure was 7.9% [4].

Against the background of the given indicators the part of state investments in education that comes from the state budget is reducing too. So in 2013, investments in implementation of the state order were slightly less than 5% of all government spending, while in 2007 the figure was almost 5.5%. The biggest share was in 2010 - 6.4% [5, 6].

Described issues with investment in the higher education sector result in extremely low activity of domestic universities in groping after new sources of investment for research, scientific and technical activities. A vivid example is low participation of Ukrainian researchers in international scientific investigations. The funding share of scientific institutions of higher education sector in total R & D funding at the expense of foreign countries is insignificant (2000 - 1.1%; 2005 - 0.7%; 2009 - 1.3%; 2010 - 0.8% ; 2011 - 1.5%; 2013 - 1.2% of total funding of Ukrainian science at the expense of foreign countries) [7, 8].

The situation with investments and investment attractiveness of Ukrainian universities reduces the number of scientific achievements; minimizes their research and innovation, deteriorates the integration of the national system of education and science with production, reduces the number of regional, national and international investment projects and programs in which national Universities are involved. [11, 12].

Analysis of recent research and publications. The study of investment potential of the universities and the development of effective mechanisms for its improvement are considered to be the tools for investment climate improvement in education and science sector of Ukraine. The fact that the sector of education and science has a considerable inexhaustible economic potential makes the topic of the given research important.

International and Ukrainian scientists dedicated particular attention to substantiation of the content and investment potential evaluation at the country level. Among them are Bandura A.V., Berezhna I.Yu., Gryshchenko I.M., Drygo M.F., Kadyrova G.V., Miroshnichenko P.I., Nechytailo U.P., Oleksandrenko I.V., Pismachenko L.M., Stechenko D.M. and other scientists who study macroeconomic and regional aspects of investment processes.

The economic category of "investment potential of the enterprise" has been considered by the following economists: Vorsovskiy O.P., Ivanov S.V., Krasnokutskaya N.S., Kucheruk T.Y., Revutsky L.D., Shevchenko S. Yu., and others. The method of calculation and a set of indicators that make up the foundation of investment potential evaluation at the enterprise level were proposed in the researches of Arapov O.S., Vorsovskiy O.P., Dun I.V., Kucheruk T.Y. and others. Aspects of formation and efficiency of investment potential have been investigated by Efimenko N.A., Krioni N.K., Kuzhel V.M. Lytyuha Yu.V.

Formulation of the purposes of the article. However the adaptation of the "investment potential" category to universities has not been investigated yet. In order to solve this problem it is necessary to implement an integrated approach to the study of "investment potential of the university" concept and develop the concept of the investment potential management based on effective mechanisms to bring it in ordered system of relationships. It is also expedient to research the effect it has on the competitiveness and demand in the field of higher education in Ukraine. All mentioned above have determined the objectives, tasks, object and subject of the current study.

Summary of main results with full justification of scientific results. The functioning of the modern university in Ukraine's market economy is associated with diversification, which leads to complicity of its organizational system, and management processes accordingly. This need is dictated by the significant reduction in budget funding allocated by the state to train specialists in different qualification levels [19, 32].

In such circumstances, universities receive the status of a full-fledged economic entity and the ability to do business to provide various types of services (education, research, design, etc.), to determine its species, and, eventually make a profit [32, 35, 36].

A dramatic increase of a number of higher educational institutions was resulted from the democratization of the economy on the one hand, and the unreasoned state policy in education, on the other, and led to high competition between higher education establishments in Ukraine. Demographic problems reinforce the abovementioned factor of the market economy [55].

In this situation, the achievement of strategic competitive advantage of higher educational institutions is provided by innovations in education and research process that has become a common truth in the market economy, and selecting specific development strategies for each of them focused primarily on available financial resources and attracted investments [51].

Within the study scope the investment potential will be considered as investments volume that can be held in its fixed capital due to all (internal and external) sources of funding, based on presence of various economic, social resources, characteristics of its location and other objective preconditions for the formation of significant investment activity in it [54, 67].

Analysis of the existing approaches to the interpretation of "investment potential" and specific investment processes in education of Ukraine has made it possible to develop the concept of management investment potential, which implements effective mechanisms for managing the investment potential (Fig.1).

The suggested concept is based on the following principles:

- universal structure of economic entity investment potential as related components;
- relevant management mechanisms of the investment potential considering specific functions of a HEI and education in general;
- adequate mechanisms of necessary resources justification required to implement measures to improve the investment potential at a particular university.

The main components of the suggested conception of the University investment potential management are as follows:

The university management, represented by the key management departments: administration, dean offices, heads of Centers and others. (1 block Fig.1);

- the system of cross-functional business processes (block 3 Fig.1);
- the automated information system of business processes management and its Web-resources (block 2 Fig.1);
- mechanisms for the University investment potential management (blocks 4-6 Fig.1);
- functional units of a University that directly implement the system of cross-functional business processes (block 7 Fig.1);
- investment in education (block 8 Fig.1);
- potential investors in education sector (block 9 Fig. 1);
- units that form the university management system (block 10 Fig. 1);
- the concept of the "investment potential of universities" (block 11 Fig.1), which is formed by external market factors of education in Ukraine (block 13 Fig.1).

These components make up a closed management circuit.

The input information in this circuit is the strategy of Universities (block 14 Fig.1) created by the university leadership, by external market factors of education and based on the concept of the University investment potential (block 11 Fig.1).

The strategy is detailed at the level of the university and departments activities. Established strategy is implemented through the set of such actions as orders, regulations, investment projects during the year.

The input information is the specific resources (financial, human, material and technical) that should be involved by universities to implement measures (innovative programs and projects, institutional and infrastructural transformations) to improve the investment potential, which will lead to the effective investments implementation in this organization (block 12 Fig.1).

This management system allows defining a comprehensive description of the state of HEI investment attractiveness (block 8 Fig.1).

The significance of this information is that its basic principles and findings can be used to form and raise the resources of a University in the implementation of measures to improve the HEI investment potential.

Managerial impacts within the proposed circuit of the management system are implemented through the system of mechanisms (blocks 4-6 Fig.1). These mechanisms are applied by the University services (economic planning administration, training division, HR department, research department, accountants) (block 10 Fig.1), which provide transformation of allocated resources in accordance with the overall goals of the HEI development strategy taking into account the notion of the investment potential. To implement this concept, the following mechanisms have been developed:

Mechanism 1. Synthesis of an effective infrastructure to support the investment potential of a University (block 4 Fig.1);

Mechanism 2. Formation of the balanced scorecard of the University investment potential assessment (block 5 Fig.1);

Mechanism 3. Optimization of University investment resources structure in market economy (block 6 Fig.1).

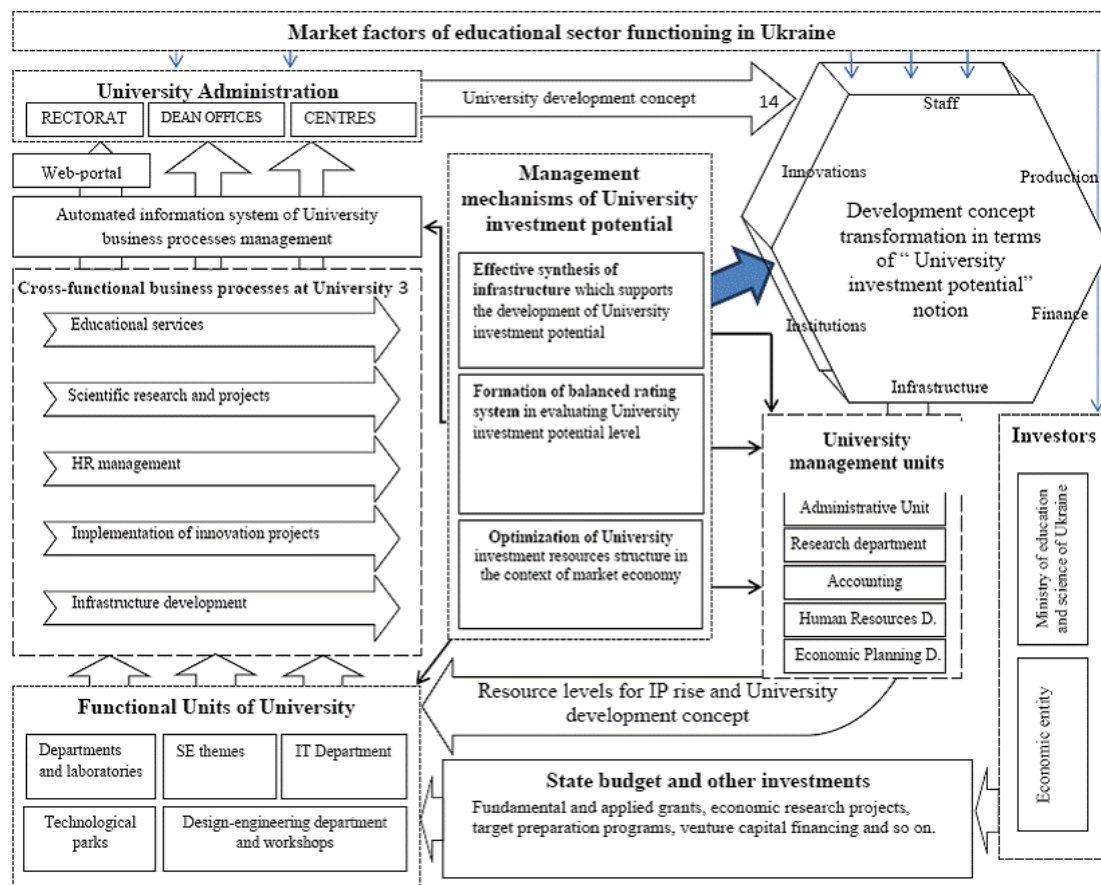


Figure 1. Management concept of University investment potential

Mechanisms 1-3 support the operation of management system of the University investment potential and efficiently display the relevant information on the state of the process of its implementing within the University development strategy for the University leadership to make effective management decisions.

Let us consider the effect each mechanism has on the effectiveness of the University investment potential management.

Mechanism of formation of the balanced scorecard of the University investment potential assessment involves the formation of the major groups of factors of the University investment potential used for its monitoring.

Currently, effective management system is possible only on the basis of reliable information that quickly comes to the people who make decisions. Today, University management uses computerized information systems of major business processes management. Monitoring systems constructed on the basis of information technologies include the collection and storage of data on the University investment potential factors. They include numerous indicators characterizing:

- qualitative and quantitative composition and dynamics of professional growth of the staff;
- level and dynamics of investment attracting in the context of sources;
- dynamics of investment projects creation and implementation;
- level of internal resources (assets, logistics) and others.

These data are the most important in the process of the University investment potential management. One should recognize that this information is used inappropriately by the bodies which allocate University resources. Weak attraction of modern technologies for evaluation and reporting is considered to be the main reason for it. Therefore, the main task within the mentioned mechanism is to provide the decision makers with results of solutions in understandable content and form and to promote the process of management actions development as objectively as possible. According to the research, the most suitable information presentation ways for a person are the ranking lists (graphs, cartograms) of problems on the investment potential factors.

Thus, this mechanism is based on methods of analysis of the information contained, methods related to grouping, ranking as well as more sophisticated methods of mathematical modeling and prognosis that can detect non-trivial facts and dependencies related to the state and dynamics of the University investment potential. These methods are used to assess the degree of investment potential, obtaining various projections, and, ultimately, developing the system of adequate indicator of University budget for implementation of measures to improve their investment potential.

The mechanism of the synthesis of infrastructure to support the development of University investment activities, which is based on institutional and systemic approach, improves the University investment infrastructure forming a set of interrelated and complementary elements of various kinds and various legal forms, that provide the services on free movement of investment resources in all phases of investment processes in a University.

Resulted from the determination of the principles of investment activity infrastructure formation and development one may suppose that the structuring of investment support institutions can be carried out in four subsystems: development, government guarantees, market, information and communication.

The first subsystem is created by financial institutions and institutions involved in building the knowledge economy.

Market subsystem includes institutions of the University investment activity marketing support that ensure implementation of investment processes within the process on provision of educational research services in domestic and foreign markets and institutions affecting the technological competitiveness of a local University.

Subsystem of state guarantees form the institutions of direct state involvement in University investment processes at all state management levels (sectorial, regional, national).

The subsystem of information and communications includes institutions of information and information support for innovation processes.

Each of these infrastructure subsystems of the University investment activity development support carries out certain functions in accordance with the challenges they face.

When developing the form of effective interaction between institutions of the University investment activity development support, one assumes a clear coordination and cooperation of all subsystems and components of their institutions, compliance of their efforts and tasks with both specific features of each stage of the investment process and with the overall performance of complex measures on construction of the University investment potential as part of the knowledge economy. The mechanism of the proposed approach to the interaction is focused on the centralization of management of elements of the University investment activity development in the organization of subsystems of management. The interaction is proposed to be implemented within the new infrastructure element - investment complex of a HEI, which contributes to uniting and coordinating the activities of all the subsystems of the University investment activity development.

The HEI investment resources structure optimizing mechanism in market economy is based on methods of economic analysis, statistical models and decision making.

Implementation of this mechanism allows the University management to make managerial decisions concerning the choice of funding sources to introduce social and economic development programs of a University by implementing investment projects.

The mechanism provides a formal approach to the implementation of evidence-based policy on the investment potential of a HEI by building a financing scheme based on a market conjuncture.

The use of economic and mathematical optimization models in the frameworks of the mechanism will allow performing a balanced development of highly effective investment in universities.

The mechanisms 1-3 are the basis of management concept of the HEI investment potential at the strategic, tactical and operational levels. They provide prompt and relevant information on the effectiveness of existing investment processes and recommendations for changes in investment infrastructure which allow University managers to make effective decisions to implement investment projects.

Within the proposed concept the importance of modern information technologies for improving the effectiveness of the investment management processes in universities has been proved. The described concept component is presented with automated information system of business process management (block 2 Fig.1) and information service parameters of the investment potential of universities.

Conclusions of the research and recommendations for further research in this area. The suggested concept of the university investment potential managing allows achieving the following results:

- improving the effectiveness of investment processes and projects; (selection of investment projects, establishing funding sources, evaluation of investment projects results and their impact on the University investment potential;

- improving the efficiency of management decisions on operation of the university investment infrastructure in general.

Information technologies increase the efficiency of planning and evaluation of alternative management decisions. The decision-making support tools which can improve the speed, accuracy and completeness of logistics solutions are used for this purpose as well as the increase of the University efficiency level.

Improvement of investment communications between the university centers of investment infrastructure makes it possible to develop timely and effective management decisions.

The developed concept of the HEI investment potential management provides the opportunity to effectively use the system approach for investment infrastructure transformation that results not only in the increase of HEI operational quality, but helps to improve their system and organization as a whole.

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